

WHAT IS CLAIMED IS:

1. An image sensor to be electrically connected to a printed circuit board,
the image sensor comprising:

a lower metal sheet set including a plurality of lower metal sheets arranged
5 in an array and a middle board arranged among and flush with the lower metal
sheets, each of the lower metal sheets having an upper surface and a lower surface,
and the middle board having an upper surface and a lower surface;

an upper metal sheet set including a plurality of upper metal sheets arranged
in an array, each of the upper metal sheets having an upper surface and a lower
10 surface, the lower surfaces of the upper metal sheets being stacked on the upper
surfaces of the lower metal sheets, respectively;

an encapsulant for encapsulating the lower metal sheets, the middle board
and the upper metal sheets with the upper surfaces of the upper metal sheets, the
lower surfaces of the lower metal sheets, and the upper and lower surfaces of the
15 middle board exposed from the encapsulant, and with a frame layer formed
around the upper surfaces of the upper metal sheets to define a chamber together
with the upper metal sheets, the exposed lower surfaces of the lower metal sheets
being electrically connected to the printed circuit board;

a photosensitive chip mounted to the upper surface of the middle board and
20 located within the chamber;

a plurality of wires for electrically connecting the photosensitive chip to the

upper surfaces of the upper metal sheets; and

a transparent layer arranged on the frame layer of the encapsulant to cover the photosensitive chip.

2. The image sensor according to claim 1, wherein the encapsulant is made
5 of industrial plastic material, and the encapsulant and the frame layer are integrally formed.

3. The image sensor according to claim 1, wherein the transparent layer is a piece of transparent glass.

4. A method for packaging an image sensor, comprising the steps of:
10 providing a lower metal sheet set including a plurality of lower metal sheets arranged in an array and a middle board arranged among and flush with the lower metal sheets, each of the lower metal sheets having an upper surface and a lower surface, and the middle board having an upper surface and a lower surface;

providing an upper metal sheet set including a plurality of upper metal
15 sheets arranged in an array, each of the upper metal sheets having an upper surface and a lower surface, the lower surfaces of the upper metal sheets being stacked on the upper surfaces of the lower metal sheets, respectively;

providing an encapsulant to encapsulate the lower metal sheets, the middle board and the upper metal sheets with the upper surfaces of the upper metal sheets,
20 the lower surfaces of the lower metal sheets, and the upper and lower surfaces of

the middle board exposed from the encapsulant, and with a frame layer formed around the upper surfaces of the upper metal sheets to define a chamber together with the upper metal sheets;

mounting a photosensitive chip to the upper surface of the middle board and
5 within the chamber;

arranging a transparent layer on the frame layer of the encapsulant to cover the photosensitive chip.

5. The method according to claim 4, wherein the encapsulant is made of industrial plastic material, and the encapsulant and the frame layer are integrally
10 formed by way of injection molding.